



# **Update on Loxahatchee River Watershed Restoration Project - Operational Testing**

**Governing Board Workshop  
April 13, 2011**

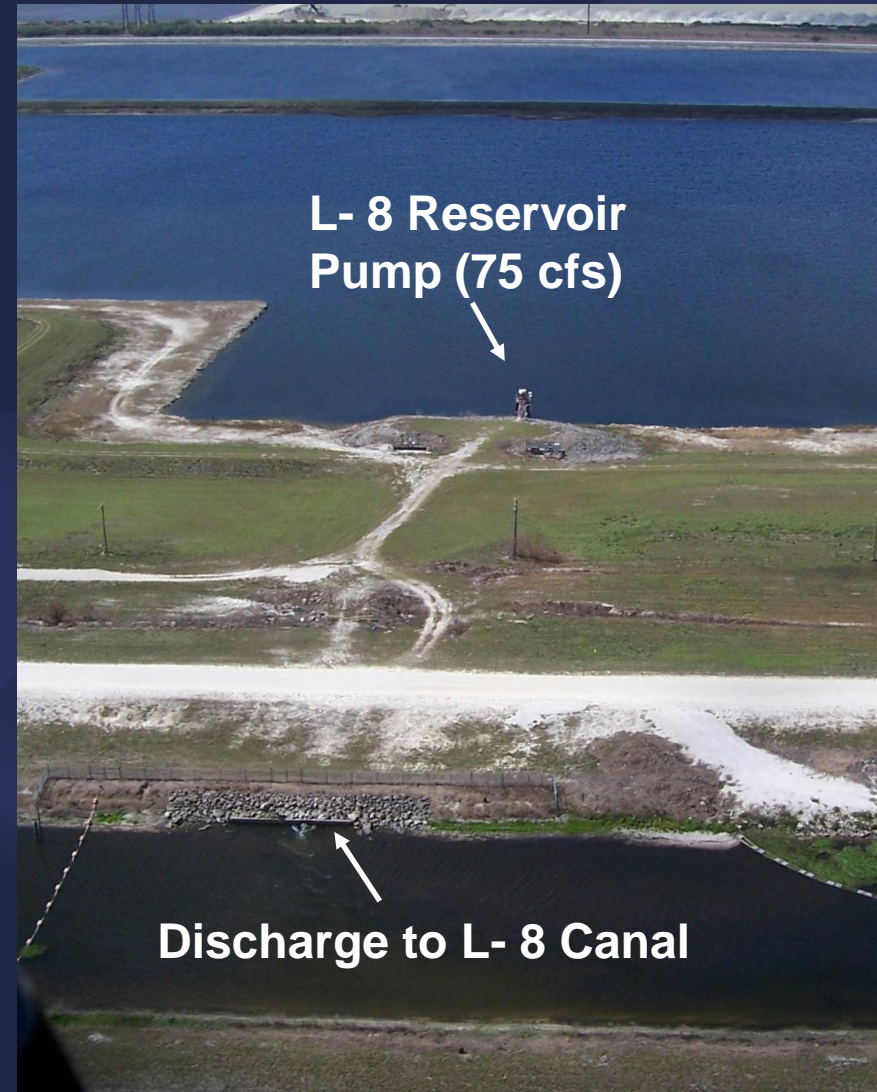
*Dave Swift, Lead Scientist, Federal and State Policy Division  
Everglades Restoration and Capital Projects*



# Background



- The L-8 reservoir represents an alternative water supply source
  - Separate from Lake Okeechobee
  - Contains elevated chloride levels from previous rock mining operations
- In cooperation with the City of West Palm Beach, Loxahatchee River District and Palm Beach County, the District has implemented a pilot test this dry season to use the L-8 Reservoir to make water deliveries to NW Fork of Loxahatchee River

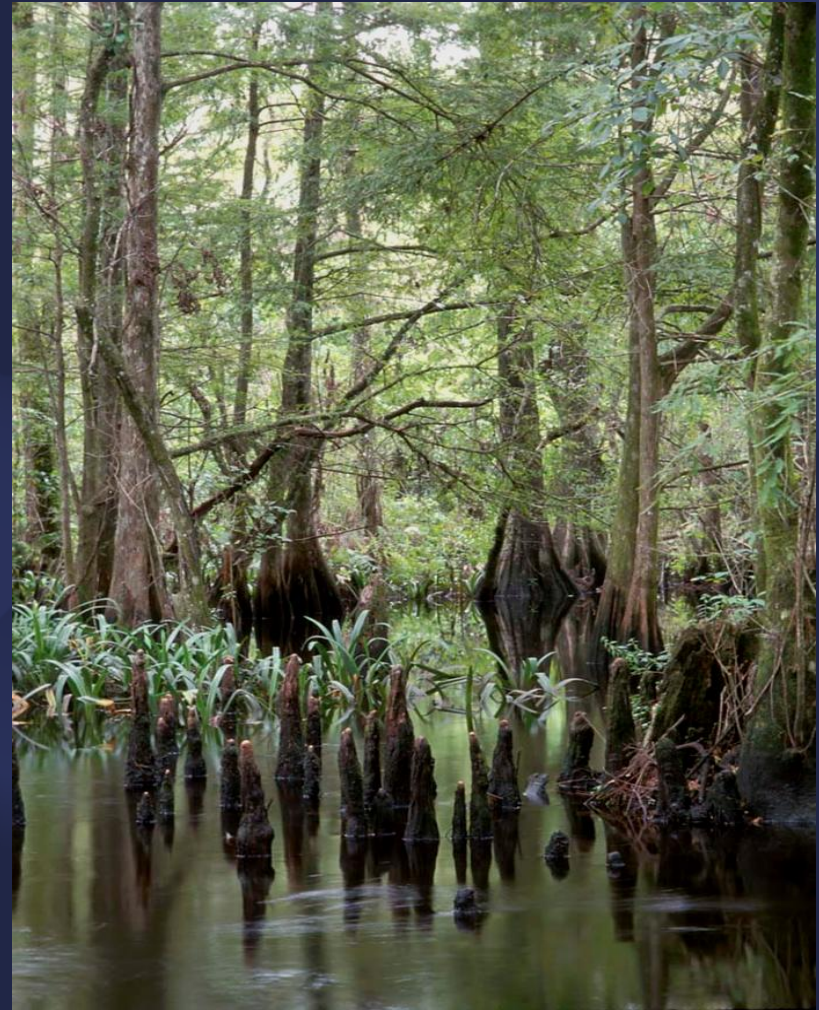


# Purpose

# SFWMD

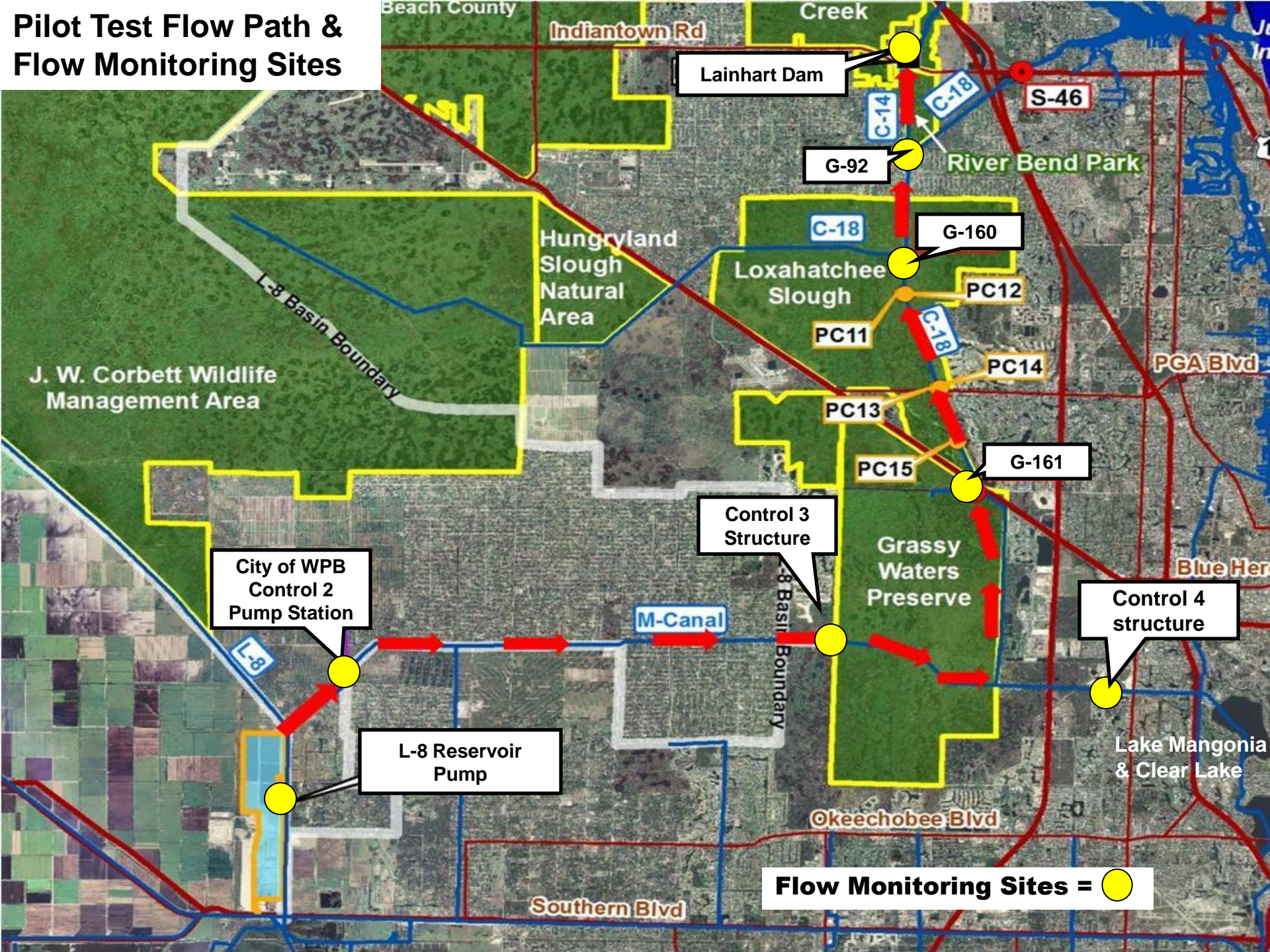
The pilot test provides the SFWMD:

- Broader understanding of the **operational complexities** involved in routing L-8 Reservoir water to the river during dry conditions
- An opportunity to “**exercise**” the **L-8 reservoir** by lowering water levels during dry season to be refilled next wet season reducing chloride levels
- Obtain data on **water conveyance losses** associated with making these deliveries that will help determine the size of pump needed to make L-8 reservoir fully operational





**Pilot Test Flow Path & Flow Monitoring Sites**





# Pilot Test Results



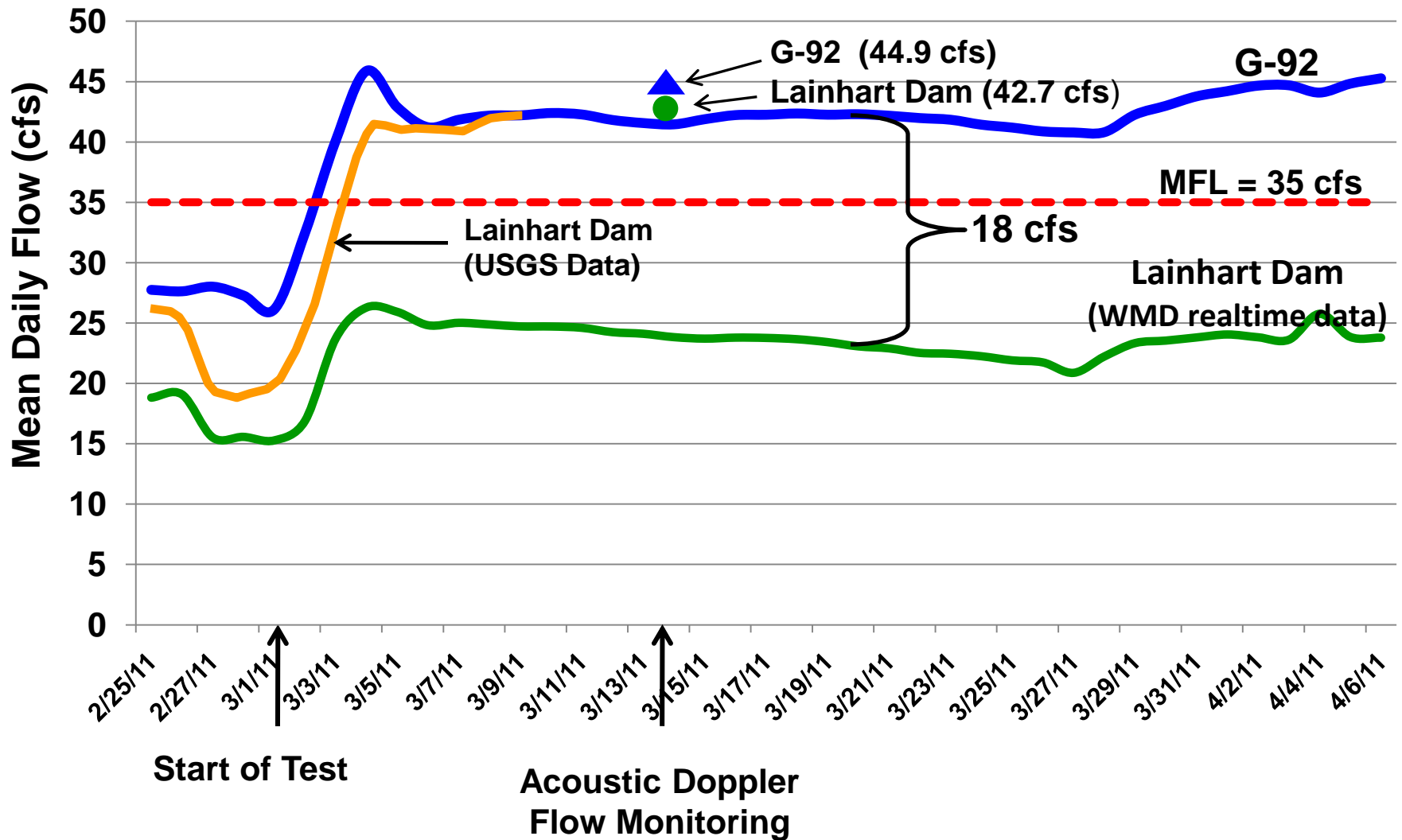
## Minimum Flow and Level (MFL) for Loxahatchee River

- Defined as when flows over Lainhart Dam **decline below 35 cfs for more than 20 consecutive days** more often than once every 6 years
- Since adoption of the MFL rule in 2003, the MFL has been exceeded each year with the exception of 2010

## Pilot Test

- Test began on 3/1/11. Since that time over 9,000 acre-feet of water has been pumped into Grassy Water Preserve with a portion released north to Loxahatchee River via the G-161
- G-161 structure was gradually opened to deliver 20 cfs of flow (week 1), 30 cfs (weeks 2 and 3) and 40 cfs (week 4)
- **Pilot test has delivered sufficient flow to achieve MFL for past 6 weeks as measured by more reliable flow readings at G-92**

# Pilot Test Flows at G-92 and Lainhart Dam



# Pilot Test Results (Cont.)



- **Water Quality over past 30 days:**
  - Total Phosphorus concentrations have decreased significantly within the M-Canal and Grassy Waters Preserve
  - Chloride levels have not exceeded permit exemption mixing zone limits (shall not exceed 250 mg/l)
- Based on a review of these data, the **FDEP has granted the District another 30-day exemption** to continue pilot test through April
- The District has received letters and numerous public comments from stakeholders thanking the District for conducting the Pilot Test indicating they were pleased to see the MFL being met during one of worst droughts in decades

# Continuation of L-8 Pilot Test



- Current water levels within L-8 Reservoir indicate that pumping using the existing pump can continue for about **three more weeks** until water levels in reservoir reach -2 feet NGVD
- At the end of the Pilot Test, a final report will be prepared documenting these results which will be submitted to FDEP and made available to the public
- SFWMD continues to receive excellent cooperation from the **City of West Palm Beach**, **Seminole Improvement District** and **FDEP** in helping the District make these deliveries



## Next Steps (Near Term)



- Staff is investigating the possibility of continuing discharges from the L-8 Reservoir, once the current Pilot Test is complete
  - To provide water supply for users within the L-8, C-51 and M-Canal basins during drought
  - To continue environmental deliveries, if possible
- Investigation includes
  - Evaluating the existing pump design to see if it can pump down to -4 feet NGVD and/or possibility of rental or loaner pumps
  - Contacting all users within these basins to verify that they can accept elevated chloride levels
  - Continuing coordination with FDEP

# Next Steps (Longer Term) **SFWMD**

## 2012 L-8 Reservoir Pilot Test

- A **larger scale Pilot Test** is proposed for the 2012 dry season
- May include **installing temporary pumps (85 cfs)** within the L-8 Reservoir along with the existing 75 cfs pump to deliver up to 160 cfs of flow to the L-8 canal for 120-130 days
- City of West Palm Beach's new 300 cfs Control 2 pump station should be operational by 2012
- Cost estimates for renting the temporary pumps and running them with existing pump for 120 days will be determined and presented to the Board prior to implementation
- Flow and water quality monitoring within L-8 Canal, M-Canal and GWP will also be required for compliance with FDEP permit as well as documentation of the test results in a final report





Questions?